Input Set : **A:\DYX-0161(34211005001).txt**
Output Set: **N:\CRF4\03262003\I825517A.raw**

```
      64 <223> OTHER INFORMATION: Xaa is Gln, Leu or Gly
W--> 66 <221> VARIANT
      67 <222> LOCATION: (11)...(11)
      68 <223> OTHER INFORMATION: Xaa is Ala, Trp or Tyr
W--> 70 <221> VARIANT
      71 <222> LOCATION: (12)...(12)
      72 <223> OTHER INFORMATION: Xaa is Ala, Gly, His, Phe, Thr or Val
W--> 74 <221> VARIANT
      75 <222> LOCATION: (14)...(14)
      76 <223> OTHER INFORMATION: Xaa is Asn, Gln, Phe, Ser or Val
W--> 78 <221> VARIANT
      79 <222> LOCATION: (15)...(15)
      80 <223> OTHER INFORMATION: Xaa is Arg, Leu, Pro or Ser
W--> 82 <221> VARIANT
      83 <222> LOCATION: (16)...(16)
      84 <223> OTHER INFORMATION: Xaa is Leu, Ser, Trp or Tyr
W--> 86 <400> 1
W--> 87 Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa
      88 1           5                 10              15
      91 <210> SEQ ID NO: 2
      92 <211> LENGTH: 16
      93 <212> TYPE: PRT
      94 <213> ORGANISM: Artificial Sequence
      96 <220> FEATURE:
      97 <223> OTHER INFORMATION: Family of preferred CEA binding moieties
W--> 99 <221> NAME/KEY: VARIANT
     100 <222> LOCATION: 1
     101 <223> OTHER INFORMATION: Xaa is Asn or Asp
W--> 103 <221> VARIANT
     104 <222> LOCATION: 6
     105 <223> OTHER INFORMATION: Xaa is Phe, Met, Leu or Asn
W--> 107 <221> VARIANT
     108 <222> LOCATION: 7
     109 <223> OTHER INFORMATION: Xaa is Asp, Gly, Ile, Lys, Phe or Thr
W--> 111 <221> VARIANT
     112 <222> LOCATION: 9
     113 <223> OTHER INFORMATION: Xaa is Arg, Asn, Asp, Glu, Gly or Trp
W--> 115 <221> VARIANT
     116 <222> LOCATION: 12
     117 <223> OTHER INFORMATION: Xaa is Ala, Gly, His, Phe, Thr, Tyr or Val
W--> 119 <221> VARIANT
     120 <222> LOCATION: (15)...(15)
     121 <223> OTHER INFORMATION: Xaa is Arg, Leu, Pro or Ser
W--> 123 <221> VARIANT
     124 <222> LOCATION: (16)...(16)
     125 <223> OTHER INFORMATION: Xaa is Leu, Ser, Trp or Tyr
W--> 127 <400> 2
W--> 128 Xaa Trp Val Cys Glu Xaa Xaa Lys Xaa Gln Trp Xaa Cys Asn Xaa Xaa
     129 1           5                 10              15
```

Input Set : **A:\DYX-0161(34211005001).txt**

Output Set: **N:\CRF4\03262003\I825517A.raw**

```
        132 <210> SEQ ID NO: 3
        133 <211> LENGTH: 10
        134 <212> TYPE: PRT
        135 <213> ORGANISM: Artificial Sequence
        137 <220> FEATURE:
        138 <223> OTHER INFORMATION: CEA binding loop
W--> 140 <221> NAME/KEY: VARIANT
        141 <222> LOCATION: 2
        142 <223> OTHER INFORMATION: Xaa is Asn, Glu or Met
W--> 144 <221> VARIANT
        145 <222> LOCATION: 3
        146 <223> OTHER INFORMATION: Xaa is Asn, Leu, Met or Phe
W--> 148 <221> VARIANT
        149 <222> LOCATION: 4
        150 <223> OTHER INFORMATION: Xaa is Asp, Gly, Ile, Lys, Phe or Thr
W--> 152 <221> VARIANT
        153 <222> LOCATION: 5
        154 <223> OTHER INFORMATION: Xaa is Ala, Gln, Gly, Lys or Thr
W--> 156 <221> VARIANT
        157 <222> LOCATION: 6
        158 <223> OTHER INFORMATION: Xaa is Arg, Asn, Asp, Glu or Gly
W--> 160 <221> VARIANT
        161 <222> LOCATION: (7)...(7)
        162 <223> OTHER INFORMATION: Xaa is Gln, Gly or Leu
W--> 164 <221> VARIANT
        165 <222> LOCATION: (8)...(8)
        166 <223> OTHER INFORMATION: Xaa is Ala, Trp or Tyr
W--> 168 <221> VARIANT
        169 <222> LOCATION: (9)...(9)
        170 <223> OTHER INFORMATION: Xaa is Ala, Gly, His, Phe, Thr or Val
W--> 172 <400> 3
W--> 173 Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys
        174  1                5                    10
        177 <210> SEQ ID NO: 4
        178 <211> LENGTH: 16
        179 <212> TYPE: PRT
        180 <213> ORGANISM: Artificial Sequence
        182 <220> FEATURE:
        183 <223> OTHER INFORMATION: CEA binding polypeptide
        185 <400> SEQUENCE: 4
        186 Asn Trp Val Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asn Ser Tyr
        187  1                5                    10                   15
        190 <210> SEQ ID NO: 5
        191 <211> LENGTH: 16
        192 <212> TYPE: PRT
        193 <213> ORGANISM: Artificial Sequence
        195 <220> FEATURE:
        196 <223> OTHER INFORMATION: CEA binding polypeptide
        198 <400> SEQUENCE: 5
```

```
199 Asp Trp Val Cys Glu Asn Lys Lys Asp Gln Trp Thr Cys Asn Leu Leu
200 1              5                 10              15
203 <210> SEQ ID NO: 6
204 <211> LENGTH: 16
205 <212> TYPE: PRT
206 <213> ORGANISM: Artificial Sequence
208 <220> FEATURE:
209 <223> OTHER INFORMATION: CEA binding polypeptide
211 <400> SEQUENCE: 6
212 Asn Trp Asp Cys Met Phe Gly Ala Glu Gly Trp Ala Cys Ser Pro Trp
213 1              5                 10              15
216 <210> SEQ ID NO: 7
217 <211> LENGTH: 16
218 <212> TYPE: PRT
219 <213> ORGANISM: Artificial Sequence
221 <220> FEATURE:
222 <223> OTHER INFORMATION: CEA binding polypeptide
224 <400> SEQUENCE: 7
225 Asp Trp Val Cys Glu Lys Thr Thr Gly Gly Tyr Val Cys Gln Pro Leu
226 1              5                 10              15
229 <210> SEQ ID NO: 8
230 <211> LENGTH: 16
231 <212> TYPE: PRT
232 <213> ORGANISM: Artificial Sequence
234 <220> FEATURE:
235 <223> OTHER INFORMATION: CEA binding polypeptide
237 <400> SEQUENCE: 8
238 Asn Trp Phe Cys Glu Met Ile Gly Arg Gln Trp Gly Cys Val Pro Ser
239 1              5                 10              15
242 <210> SEQ ID NO: 9
243 <211> LENGTH: 16
244 <212> TYPE: PRT
245 <213> ORGANISM: Artificial Sequence
247 <220> FEATURE:
248 <223> OTHER INFORMATION: CEA binding polypeptide
250 <400> SEQUENCE: 9
251 Asp Trp Val Cys Asn Phe Asp Gln Gly Leu Ala His Cys Phe Pro Ser
252 1              5                 10              15
255 <210> SEQ ID NO: 10
256 <211> LENGTH: 12
257 <212> TYPE: PRT
258 <213> ORGANISM: Artificial Sequence
260 <220> FEATURE:
261 <223> OTHER INFORMATION: Parental domain for design of microprotein display
262       library
```
W--> 264 <221> NAME/KEY: VARIANT
```
265 <222> LOCATION: (1)...(12)
266 <223> OTHER INFORMATION: amino acid positions 4 and 9 are invariant Cys;
267       all other positions Xaa are varied but not Cys, to
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/825,517A

DATE: 03/26/2003
TIME: 12:43:09

Input Set : **A:\DYX-0161(34211005001).txt**
Output Set: **N:\CRF4\03262003\I825517A.raw**

```
        268          provide a library of 2x10(8) different peptides
        269          based on the template sequence
W--> 271  <221> VARIANT
        272  <222> LOCATION: 1, 2, 3, 5, 6, 7, 8, 10, 11, 12
        273  <223> OTHER INFORMATION: Xaa = Any Amino Acid except Cys
W--> 275  <400> 10
W--> 276  Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa
        277  1               5                   10
        280  <210> SEQ ID NO: 11
        281  <211> LENGTH: 11
        282  <212> TYPE: PRT
        283  <213> ORGANISM: Artificial Sequence
        285  <220> FEATURE:
        286  <223> OTHER INFORMATION: Parental domain for design of microprotein display
        287          library
W--> 289  <221> NAME/KEY: VARIANT
        290  <222> LOCATION: (1)...(11)
        291  <223> OTHER INFORMATION: amino acid positions 3 and 9 are invariant Cys;
        292          all other positions Xaa are varied but not Cys, to
        293          provide a library of 1x10(9) different peptides
        294          based on the template sequence
W--> 296  <221> VARIANT
        297  <222> LOCATION: 1, 2, 4, 5, 6, 7, 8, 10, 11
        298  <223> OTHER INFORMATION: Xaa = Any Amino Acid except Cys
W--> 300  <400> 11
W--> 301  Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
        302  1             5                   10
        305  <210> SEQ ID NO: 12
        306  <211> LENGTH: 12
        307  <212> TYPE: PRT
        308  <213> ORGANISM: Artificial Sequence
        310  <220> FEATURE:
        311  <223> OTHER INFORMATION: Parental domain for design of microprotein display
        312          library
W--> 314  <221> NAME/KEY: VARIANT
        315  <222> LOCATION: (1)...(12)
        316  <223> OTHER INFORMATION: amino acid positions 3 and 10 are invariant Cys;
        317          all other positions Xaa are varied but not Cys, to
        318          provide a library of 1x10(9) different peptides
        319          based on the template sequence
W--> 321  <221> VARIANT
        322  <222> LOCATION: 1, 2, 4, 5, 6, 7, 8, 9, 11, 12
        323  <223> OTHER INFORMATION: Xaa = Any Amino Acid except Cys
W--> 325  <400> 12
W--> 326  Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
        327  1             5                   10
        330  <210> SEQ ID NO: 13
        331  <211> LENGTH: 16
        332  <212> TYPE: PRT
```

Input Set : **A:\DYX-0161(34211005001).txt**
Output Set: **N:\CRF4\03262003\I825517A.raw**

Please Note:

**Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.**

```
Seq#:1; Xaa Pos. 1,2,3,5,6,7,8,9,10,11,12,14,15,16
Seq#:2; Xaa Pos. 1,6,7,9,12,15,16
Seq#:3; Xaa Pos. 2,3,4,5,6,7,8,9
Seq#:10; Xaa Pos. 1,2,3,5,6,7,8,10,11,12
Seq#:11; Xaa Pos. 1,2,4,5,6,7,8,10,11
Seq#:12; Xaa Pos. 1,2,4,5,6,7,8,9,11,12
Seq#:13; Xaa Pos. 1,2,3,5,6,7,8,9,10,11,12,14,15,16
Seq#:14; Xaa Pos. 1,2,3,5,6
Seq#:15; Xaa Pos. 5,6,7,8,9
Seq#:16; Xaa Pos. 8,9,10,11,12
Seq#:17; Xaa Pos. 11,12,14,15,16
Seq#:18; Xaa Pos. 6,7,9,12,15
Seq#:19; Xaa Pos. 5,6,7,9,12
Seq#:20; Xaa Pos. 1,3,14,15,16
Seq#:23; Xaa Pos. 6,7,9,12,15
Seq#:29; Xaa Pos. 1,2,3,5,6
Seq#:30; Xaa Pos. 5,6,7,8,9
Seq#:31; Xaa Pos. 8,9,10,11,12
Seq#:32; Xaa Pos. 11,12,14,15,16
Seq#:33; Xaa Pos. 6,7,9,12,15
Seq#:34; Xaa Pos. 5,6,7,9,12
Seq#:35; Xaa Pos. 1,3,14,15,16
Seq#:36; Xaa Pos. 1,3,5,6,7,8,9,10,12,14,15,16
Seq#:110; Xaa Pos. 2,3,4,5,6,7,8,9
Seq#:111; Xaa Pos. 1,2,3,5,6,7,8,9,10,11,12,14,15,16
```

```
L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:30 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:34 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:38 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:42 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:46 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:50 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:54 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:58 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:62 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:66 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:70 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:74 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:78 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:82 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:86 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:87 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:99 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:103 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:107 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:111 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:115 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:119 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:123 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:127 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:128 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
L:140 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:144 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:148 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:152 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:156 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:160 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:164 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:168 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:172 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:173 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:264 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:271 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:10
L:275 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:10
L:276 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0
L:289 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:296 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:11
L:300 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:11
L:301 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0
L:314 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:321 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:12
L:325 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:12
L:326 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0
```

Input Set : **A:\DYX-0161(34211005001).txt**
Output Set: **N:\CRF4\03262003\I825517A.raw**

```
L:339 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:346 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:13
L:350 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:13
L:351 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0
L:364 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:368 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:14
L:372 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:14
L:376 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:14
L:377 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0
L:390 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:394 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:15
L:400 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:15
L:401 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
L:413 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:417 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:16
L:421 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:16
L:422 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0
L:435 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:439 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:17
L:443 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:17
L:447 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:17
L:448 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0
L:461 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:465 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:18
L:469 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:18
L:473 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:18
L:482 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0
L:495 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:512 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:0
L:525 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:542 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0
L:581 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:602 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:0
L:695 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:708 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 after pos.:0
L:721 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:730 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:0
L:743 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:752 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:0
L:765 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:778 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:0
L:791 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:813 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:0
L:826 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:843 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0
L:857 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:874 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0
L:886 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:940 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:0
```

Input Set : **A:\DYX-0161(34211005001).txt**
Output Set: **N:\CRF4\03262003\I825517A.raw**

```
L:1912 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:1950 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:110 after pos.:0
L:1962 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:2025 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:111 after pos.:0
```

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2	FOR	60

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